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Lectotypification of Several Names Currently Placed in *Diplazium* (Woodsiaceae)

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ABSTRACT.—Lectotypifications are made for the following names that apply to species of *Diplazium* in the Old World: *D. atratum*, *D. conterminum*, *D. crinipes*, *D. megaphyllum*, *D. polypodioides* var. *vestitum*, *D. sechellarum*, and *D. sikkimense*. The types of these names have scales with black borders and bifid marginal teeth, a scale type characteristic of the diplazioid segregate *Callipteris*.

Diplazium is pantropical with an estimated 400 species, the majority of which occur in the tropics of the Old World (Kato and Kramer, 1990). The genus is taxonomically difficult, poorly known, and in need of a monographic study. In a recent study (Pacheco & Moran, 1999), 15 species that had been treated in *Diplazium* were recognized in *Callipteris* because they had anastomosing veins and rhizome scales with black-borders and bifid marginal teeth. The type of rhizome scale characteristic of these species, called the "*Callipteris* scale type," is known only in *Callipteris* and certain species of *Diplazium*; it does not occur in other fern genera. Many species of *Diplazium*, especially in the Old World, have the *Callipteris* scale type but exhibit free veins. It is unknown whether they form a monophyletic group with species of *Callipteris* having anastomosing veins. The species lectotypified in the present paper all exhibit the *Callipteris* scale type but have free veins.

Sano *et al.* (2000) presented preliminary results based on chloroplast rbcL gene sequences for the phylogeny of the tribe Physematieae, which includes *Diplazium* and *Callipteris*. Their analysis included four species of *Diplazium* with the *Callipteris* scale type, but more species need to be included in future analyses to determine whether the *Callipteris* scale type defines a monophyletic group. Until phylogenetic studies using DNA sequences confirm that the *Callipteris* scale type forms a monophyletic group, we refrain from making new combinations in *Callipteris* for those species of Diplazium with free veins and the unique scale type.

The present paper is a result of studies of *Diplazium* at BM, K, P, UAMIZ, and US. In general, the lectotypes were chosen based on their completeness and how well they agreed with the original protologues.

Diplazium atratum H. Christ, Philipp. J. Sci. 2 C: 163. 1907. *Athyrium atratum* (H. Christ) Copel., Philipp. J. Sci. 3: 293. 1908. Lectotype (here

designated): Philippines. Palawan, Victoria Peak, 600 to 1100 m, Mar 1906, *Foxworthy 683* (P!).

The other syntype is *Foxworthy 714* (P!), which was collected at the same locality on the same date. We designate *Foxworthy 683* as the lectotype because it is the more complete specimen.

Diplazium conterminum H. Christ, J. Bot. 19: 67. 1905. *Diplazium virescens* Kunze var. *conterminum* (H. Christ) Sa. Kurata, J. Geobot. (Kanazawa) 7: 77. 1958. *Allantodia contermina* (H. Christ) Ching, Acta Phytotax. Sin. 9: 47. 1964. Lectotype (here designated): Vietnam. Annam, vallée du Long-Gianh, 1903, *Cadière 88* (P!).

The other syntype is *Cadière 98* (P!), collected from the same locality. We choose *Cadière 88* (P!) as the lectotype because it is a more complete specimen.

Diplazium crinipes Ching, Bull. Fan Mem. Inst. Biol. 2: 207, tab. 23–24. 1931. *Allantodia crinipes* (Ching) Ching, Acta Phytotax. Sin. 9: 53. 1964. Lectotype (here designated): China. Hongkong, New Territory, Ma-on Shan, 3 Feb 1907, *Matthew s.n.* (K!, photos US!, UAMIZ!).

The other syntype is: China. Kwangtung: North River, Tei Loy Hap, 23 Nov 1907, *Matthew s.n.* (K!, photo US). The *Matthew s.n.* specimen collected on 3 February 1907 is designated as the lectotype because it is the more complete of the two.

Diplazium megaphyllum (Baker) H. Christ, Bull. Herb. Boissier 6: 961. 1898. *Asplenium megaphyllum* Baker, J. Bot. 264. 1890. *Allantodia megaphylla* (Baker) Ching, Acta Phytotax. Sin. 9: 50. 1964. Lectotype (here designated): China. Tonkin, Forêts du Mont-Bavi, 800 m, 21 Jul 1886, *Balansa 1836* (P!; isolectotypes: K! fragment BM!).

The other syntype is: China, Tonkin, Forêts du Mont Bavi, 1888, *Balansa 1846* (K!, P!). We designate *Balansa 1836* (P!) as the lectotype because it is more complete and, importantly, the petiole scales can be clearly seen.

Diplazium polypodioides Blume var. ***vestitum*** (C. B. Clarke) K. Iwats., H. Ohba & S. B. Malla, Himalayan Pl. 1 (Univ. Mus. Univ. Tokyo Bull. 31): 319. 1988. *Asplenium polypodioides* Mett. var. *vestitum* C. B. Clarke, Trans. Linn. Soc. London, Bot. Ser. 2, 1: 501. 1880. Lectotype (here designated): India. Darjeeling, 6500 ft., 19 Jun 1884, *Clarke 35382* (K!).

The other syntype is: India, Darjeeling, 5500 ft., 17 Aug 1869, *Baker 8646* (K!). Because *Clarke 35382* is more complete, it is designated as the lectotype.

Diplazium sechellarum (Baker) C. Chr., Ind. Fil. 238. 1906. *Asplenium sechellarum* Baker, Syn. fil. 91. 1874. Lectotype (here designated): Madagascar, *Boivin s.n.* (K!).

Two other specimens were cited in the protologue: Seychelles, without locality, *Bouton s.n.* (K!); and Seychelles, Sep 1871, *Horne 165* (K!). We choose *Boivin s.n.* as the lectotype because it best agrees with the protologue.

Diplazium sikkimense (C. B. Clarke) C. Chr., Contr. U.S. Nat. Herb. 26: 304. 1931. *Asplenium sikkimense* C. B. Clarke, Trans. Linn. Soc. London, Bot. 1: 500, tab. 65, fig. 1. 1880. *Allantodia sikkimensis* (C. B. Clarke) Ching, Acta Phytotax. Sin. 9: 56. 1964. Lectotype (here designated): India. Sikkim, *Hooker s.n.* (K!).

Someone wrote "lectotype" on the Hooker specimen, but we cannot find any previous publication lectotypifying this name. The other syntype was: India, near the Teesta, 500 ft., *Clarke s.n.* (K).

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